VCS One Analytics

Integration Guide

Getting Started

Workspace Setup

Create analytics workspace, configure data access policies, set up user roles, and initialize project structure.

Workspace Configuration:

1. **Create Workspace:** Navigate to workspace management and create new analytics workspace with unique identifier
2. **Configure Policies:** Set up data access policies, user permissions, retention policies, and security settings
3. **Set Up Roles:** Define Admin (full access), Analyst (create/edit analyses), and Viewer (read-only) roles with appropriate access levels
4. **Initialize Structure:** Create project directories, configure initial settings, and set up default preferences
5. **Data Governance:** Configure data retention policies, archival rules, and privacy settings

User Provisioning

Configure user roles, permissions, SSO integration, and API key generation.

User Configuration Steps:

- Import users from Active Directory, LDAP, or manually create accounts with role assignments and permission groups
- Configure SSO integration with Okta, Azure AD, or other identity providers with SAML/OAuth authentication
- Generate API keys for programmatic access with appropriate permissions (read, write, admin) and expiration dates
- Set up two-factor authentication (2FA) for enhanced security with backup authentication methods
- Configure user session management with timeout policies and concurrent session limits

Data Source Integration

PostgreSQL/MySQL Connection

Connect to relational databases with schema discovery and incremental synchronization.

Connection Setup:

1. **Configure Connection:** Enter database host, port, credentials in connection wizard
2. **Test Connectivity:** Verify connection with test query to ensure accessibility
3. **Schema Discovery:** Automatically detect tables, views, and relationships
4. **Select Data:** Choose tables and views to include in analytics workspace
5. **Configure Sync:** Set up incremental synchronization with change detection

Snowflake/BigQuery Integration

Connect to cloud data warehouses for large-scale analytics.

Cloud Warehouse Setup:

Credentials: Configure OAuth or service account authentication with cloud provider

Warehouse: Select warehouse instance and configure compute resources

Query Optimization: Enable query caching and result set optimization

Cost Monitoring: Set up cost alerts and query budgets

Real-Time Streaming Setup

Kafka/Redpanda Integration

Configure real-time data streaming with Kafka or Redpanda for live analytics.

Streaming Configuration:

- **Topics:** Configure topic access permissions and subscription patterns
- **Consumer Groups:** Set up consumer groups for parallel processing
- **Event Schemas:** Define Avro or JSON schemas for event validation
- **Processing Logic:** Implement transformation and aggregation logic in stream processors

Stream Processing Rules

Configure event filtering, aggregation, and trigger conditions.

Processing Setup:

- **Filtering:** Create rules to filter events based on attributes and values
- **Aggregation:** Set up time-windowed aggregations for real-time metrics
- **Triggers:** Define conditions that trigger downstream actions
- **Output:** Configure sinks for processed data (databases, APIs, dashboards)

BI Tool Integration

Power BI, Looker, and Tableau Integration

Connect analytics data to business intelligence tools for visualization.

Power BI Connector:

- Install Power BI custom connector from marketplace and authenticate with API credentials
- Configure data source with connection string and authentication method
- Build dashboards using drag-and-drop visualization tools with live data connection
- Schedule automatic dataset refreshes for up-to-date analytics

Looker Integration:

- Create LookML models defining metrics, dimensions, and relationships
- Configure data access permissions and user roles in Looker
- Build dashboards and explore views for ad-hoc analysis

Tableau Connectivity:

- Use Tableau custom connector or Web Data Connector for data access
- Configure extract refresh schedules or live connection for real-time data
- Write custom SQL queries for complex data transformations

Dashboard Embedding

Embed analytics dashboards into applications and websites.

Embedding Features:

- Iframe embedding with responsive sizing and custom authentication
- API-based embedding with programmable dashboard integration
- SSO authentication for embedded dashboards with user context
- Custom CSS styling to match brand guidelines and themes

Trigger Engine Configuration

Creating Business Rules

Define automated triggers based on business logic and data conditions.

Rule Definition:

- **Conditions:** Specify trigger conditions using SQL-like predicates and logical operators
- **Actions:** Configure actions to execute when conditions are met (notifications, API calls, data updates)
- **Frequency:** Set execution frequency (real-time, hourly, daily) with rate limiting
- **Testing:** Validate rules with historical data and test scenarios

ML Model Selection

Integrate machine learning models for intelligent event detection.

Model Configuration:

- Choose model type (classification, regression, anomaly detection) based on use case
- Configure model parameters, hyperparameters, and inference settings
- Set confidence thresholds for triggering actions based on predictions
- Enable A/B testing to compare model performance with production traffic

Augmented Analytics Setup

Model Training and Configuration

Set up machine learning models for automated insight generation.

Training Process:

- **Data Preparation:** Prepare training datasets with features and labels
- **Feature Engineering:** Create derived features and handle missing values
- **Model Training:** Train models using cross-validation and hyperparameter tuning
- **Evaluation:** Evaluate model performance with test datasets and adjust parameters

Narrative Customization

Configure natural language generation for human-readable insights.

Customization Options:

- Configure template language and tone (formal, casual, technical)
- Customize branding and formatting for consistent corporate identity
- Enable multi-language support with translation capabilities

Executive Reporting:

- Schedule automated report generation with distribution lists
- Create executive dashboards with high-level KPIs and trends
- Configure alert thresholds for critical business metrics

Testing & Deployment

Trigger Testing

Validate trigger functionality with comprehensive testing procedures.

Testing Procedures:

- **Simulation:** Trigger simulation with synthetic events and test data
- **Validation:** Data validation to ensure accuracy and correctness
- **Verification:** Action verification to confirm proper execution
- **Performance:** Performance testing to measure latency and throughput

Monitoring Setup

Configure monitoring and alerting for production deployment.

Monitoring Configuration:

- **Metrics:** Track trigger execution rates, success/failure ratios, latency
- **Alerts:** Configure alerts for errors, failures, and performance degradation
- **Dashboards:** Create operational dashboards for real-time visibility
- **Logging:** Comprehensive logging for troubleshooting and audit purposes

Training Resources

Value Creating Solutions Sdn Bhd